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EXAMINER	
NG, CHRISTINE Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/755,659	Applicant(s) CHEN ET AL.	
	Examiner Christine Ng	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 26-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21,24 and 26-35* is/are rejected.

7)☒ Claim(s) *22 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 January 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 5, 6, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,539,008 to Ahn et al.

Referring to claim 1, Ahn et al disclose a method for adjusting transmit power levels of a plurality of transmissions in a wireless communication system, the method comprising:

Receiving (Figure 6, first set of power control bits P1-P6) a first indication of a received quality of a first transmission (Figure 3, white blocks).

Adjusting the transmit power level of the first transmission based at least in part on the first indication (Figure 6, using any of methods 612-616).

Receiving (Figure 6, second set of power control bits P1-P6) a second indication of a received quality of a second transmission (Figure 3, white blocks), wherein the second indication is formed by aggregating a plurality of power control bits allocated for feedback for the second transmission, wherein the aggregating lowers the rate of the plurality of power control bits. By performing power control at the receiver once for

every power control bit, a power control speed of 4800Hz is realized (612). Similarly, by performing power control at the receiver once at the average of two power control bits, three power control bits or four power control bits, a power control speed of 2400Hz (614), 1600Hz (615) or 800Hz (616) can be obtained, respectively. Therefore, aggregating (averaging) the power control bits lowers the rate of power control. Refer to Column 5, lines 1-61.

And further wherein the aggregating is performed at the transmitter of the power control bits. "The selection of a particular power control bit frequency can be made either during the power control bit determination or after the power control bits are demodulated in a receiver" (Column 5, lines 34-37). If the selection of a particular power control bit frequency is done during the power control bit determination, this will be done at the transmitter end. The transmitter end determines a power control bit to send to the receiver, so that the receiver can adjusts its power upwards or downwards depending on the received power control bit. This can be seen in Figure 1, where the transmitter (terminal 10) generates a power control bit to the receiver (base station 20), so that the base station 20 can adjust its signal strength accordingly. Refer to Column 1, line 60 to Column 2, line 20.

Adjusting the transmit power level of the second transmission based at least in part on the second indication (Figure 6, using any of methods 612-616).

Referring to claim 2, Ahn et al disclose that the first indication comprises a power control command (power control bit) that indicates whether to increase or decrease the

transmit power level of the first transmission. Refer to Column 1, line 60 to Column 2, line 20.

Referring to claim 5, Ahn et al disclose that the power control command is generated based on a comparison of the received quality (received signal strength) of the first transmission against a setpoint (reference strength). Refer to Column 1, line 60 to Column 2, line 9 and Column 2, lines 39-44.

Referring to claim 6, Ahn et al disclose that the transmit power levels for the first and second transmissions are adjusted based solely on the first and second indications, respectively. Refer to the rejection of claim 1.

Referring to claim 35, refer to the rejection of claim 1. Furthermore, Ahn et al disclose that the plurality of power control bits of the second indication have a rate equal to that of the first indication. As shown in Figure 6, all power control bits P1-P6 have a rate of 1.25 msc/6. Refer to Column 5, lines 21-25.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al.

Referring to claim 9, Ahn et al do not specifically disclose that the method further comprises: receiving a third indication of a received quality of a third transmission,

wherein the third indication is formed by aggregating a plurality of bits allocated for feedback for the second transmission; and adjusting the transmit power level of the third transmission based at least in part on the third indication.

However, power control is performed for every received signal. Refer to Column 2, lines 36-53. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include receiving a third indication of a received quality of a third transmission, wherein the third indication is formed by aggregating a plurality of bits allocated for feedback for the second transmission; and adjusting the transmit power level of the third transmission based at least in part on the third indication; the motivation being to perform power control on the third transmission and accommodating the changing speed and quality of transmission of the mobile station.

Referring to claim 19, Ahn et al do not specifically disclose that the wireless communication system is a CDMA system that conforms to cdma2000 standard or W-CDMA standard, or both.

However, Ahn et al disclose that the system is a CDMA system. Refer to Column 3, lines 19-23. A CDMA system can be upgraded to accommodate cdma2000 or W-CDMA. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the wireless communication system is a CDMA system that conforms to cdma2000 standard or W-CDMA standard, or both; the motivation being that cdma2000 and W-CDMA supports much higher data rates than CDMA.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 6,233,439 to Jalali.

Ahn et al does not disclose that the transmit power levels of the first and second transmission are adjusted together based on the power control command.

Jalali et al disclose in Figure 1 that the mobile user generates two streams of power control bits; one stream is generated by estimating the received signal energy based on all traffic channels bits and the other stream is generated by estimating the received signal energy from the punctured power control bits and a subset of the traffic channel bits. If the frame rate changes, the base station uses the power control bits from the second stream. If the frame rate has not changed, the base station uses the power control bits from the first stream. Thus, if the successive frame rate does or does not change, successive streams of transmission will utilize the same power control commands from respective power control streams. Refer to Column 3, line 40 to Column 4, line 34. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that the transmit power levels of the first and second transmission are adjusted together based on the power control command; the motivation being if successive streams of transmissions remain identical, the same power control commands can be used for all transmissions, thereby saving energy.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 6,233,439 to Jalali and in further view of U.S. Patent No. 6,259,927 to Butovitsch et al.

Ahn et al do not disclose that a difference between the transmit power

levels of the first and second transmissions is adjusted based on the second indication.

Butovitsch et al disclose in Figure 5B that a first and second base station transmits a first and second transmission to the base station controller, respectively. The controller determines new downlink transmission power commands for each base station based on the difference between the two downlink transmit powers from the first and second base station. Refer to Column 11, lines 46-65. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that a difference between the transmit power levels of the first and second transmissions is adjusted based on the second indication; the motivation being so that the new transmission power levels can be within the range of the original first and second transmission power levels.

7. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 6,148,208 to Love.

Referring to claim 7, Ahn et al do not disclose that the second indication comprises an erasure indicator bit indicating whether a frame in the second transmission was received correctly or in error.

Love discloses that power control of a channel can be based on an erasure indicator bit. A remote unit sends to the base station an erasure indicator bit to indicate whether a frame was received in error or not. Refer to Column 4, lines 13-18 and lines 31-43. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that the second indication comprises an erasure indicator bit indicating whether a frame in the second transmission was received correctly or in

error; the motivation being that if the frame was received in error, the base station can increase the power level to improve the reception of future frames.

Referring to claim 8, Ahn et al do not disclose that the second indication comprises a quality indicator bit indicating the quality of a received fame in the second transmission.

Love discloses that power control of a channel can be based on a quality indicator bit. A remote unit sends to the base station a quality indicator bit to indicate whether the quality of the frame was low or not. Refer to Column 4, lines 13-18 and lines 31-43. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include that the second indication comprises a quality indicator bit indicating the quality of a received fame in the second transmission; the motivation being that if the quality of the frame was low, the base station can increase the power level to improve the quality of future frames.

8. Claims 10-13, 15-18, 20, 24, 26 and 27-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 6,590,873 to Li et al.

Referring to claim 10, Ahn et al do not disclose that the first indication is received via a first power control sub-channel and the second indication is received via a second power control sub-channel.

Li et al disclose in Figure 4 a power control group 40 that is transmitted over a power control sub-frame. The second bit is a supplemental power control sub-channel for indicating to the base station whether to increase or decrease the transmission

power for the mobile unit's forward supplemental channel, which carries data. The fourth bit is a fundamental power control sub-channel for indicating to the base station whether to increase or decrease the transmission power for the mobile unit's forward fundamental channel, which carries voice. Refer to Column 2, line 66 to Column 3, line 11 and Column 3, lines 30-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the first indication is received via a first power control sub-channel and the second indication is received via a second power control sub-channel; the motivation being that the first and second transmissions may carry different types of information (voice, data, etc) and require different power control patterns.

Referring to claim 11, Ahn et al do not disclose that the first and second power control sub-channels are formed by time division multiplexing a power control channel.

Li et al disclose in Figure 4 that the first (second bit) and second (fourth bit) power control sub-channels are formed by time division multiplexing a power control channel (into a power control group 40). A fundamental power control sub-channel and a supplemental power control sub-channel are time multiplexed onto a reverse pilot channel and separate the pilot sub-channels to provide time diversity for better combating fading of the pilot channel. Refer to Abstract and Column 3, lines 58-61. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the first and second power control sub-channels are formed by time division multiplexing a power control channel; the motivation being so

that control bits for both channels can be controlled in a single power control group over a 1.25ms time interval of a reverse pilot channel. Refer to Column 3, lines 12-26.

Referring to claim 12, Ahn et al do not disclose that the combined bit rate of the first and second power control sub-channels is limited to a particular bit rate.

Li et al disclose in Figure 3 that a power control group 40 is limited to a 1.25ms time interval of a reverse pilot channel. The power control group 40 is made up of four bits representing two pilot control sub-channels and two power control sub-channels. In each sub-channel, a single bit is transmitted, and each bit comprises 384xN symbols, where N represents a chip rate. The combined bit rate of the first and second power control sub-channels is limited to the combined chip rate of the first and second power control sub-channels. Refer to Column 3, lines 11-26. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the combined bit rate of the first and second power control sub-channels is limited to a particular bit rate; the motivation being to allow the system to operate at various chip rates.

Referring to claim 13, Ahn et al disclose that the bits allocated for the second power control sub-channel are aggregated to form the feedback for the second transmission at a lower rate but having increased reliability. By transmitting the power control bits at a lower rate, the bits will experience less error and better transmission quality. Refer to the rejection of claim 1.

Referring to claim 15, Ahn et al disclose in Figure 6 that the feedback rate of the second transmission is selectable from among a set of possible feedback rates (4800Hz (616), 2400Hz (614), 1600Hz (615) or 800Hz (616)). Refer to the rejection of claim 1.

Referring to claim 16, Ahn et al do not disclose that the second power control sub-channel is operative to send a plurality of metrics for the second transmission.

Li et al disclose in Figure 4 that the second power control sub-channel (supplemental or forward power control sub-channel) informs the base station of whether to increase or decrease the forward transmission power depending on a plurality of different metrics: the E_b/N_t ratio or the CRC of each data frame. Refer to Column 4, lines 15-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the second power control sub-channel is operative to send a plurality of metrics for the second transmission; the motivation being to so that the system can use different methods to determine whether to increase the transmission power level, such as the energy-to-noise ratio of the system and the error rate of the frames.

Referring to claim 17, Ahn et al disclose that one of the plurality of metrics indicates a step size for adjustment of the transmit power level for the second transmission. Refer to Column 1, line 60 to Column 2, line 20.

Referring to claim 18, Ahn et al do not disclose that one of the plurality of metrics is indicator of an amount of margin in the received quality of the second transmission for no frame erasure.

Li et al disclose that the mobile user can send to the base station erasure indicator bits so that the base station can adjust its transmission power accordingly. If the base station receives one or more successive error indicator bits, the base station increases the power of its forward link. The mobile user indicates to the base station the amount of margin (amount of transmit power level increase) for no frame erasure (to prevent frame errors). Refer to Column 1, lines 54-62 and Column 4, lines 41-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that one of the plurality of metrics is indicator of an amount of margin in the received quality of the second transmission for no frame erasure; the motivation being to prevent successive frame errors.

Referring to claim 20, Ahn et al disclose a method for adjusting transmit power levels of a plurality of transmissions in a wireless communication system, the method comprising:

Receiving and processing a first transmission (Figure 3, white blocks) to determine a received quality of the first transmission.

Forming (Figure 6, first set of power control bits P1-P6) a first indication for the received quality of the first transmission.

Receiving and processing a second transmission (Figure 3, white blocks) to determine a received quality of the second transmission.

Forming (Figure 6, second set of power control bits P1-P6) a second indication for the received quality of the second transmission.

Wherein the second indication is formed by aggregating a plurality of power control bits allocated for feedback for the second transmission, wherein aggregating lowers the rate of the plurality of power control bits, and further wherein the aggregating is performed at the transmitter of the power control bits. Refer to the rejection of claim 1.

Ahn et al do not disclose sending the first and second indications via first and second power control sub-channel, respectively. Refer to the rejection of claim 10.

Referring to claim 24, Ahn et al disclose a power control unit for use in a wireless communication system, comprising:

A signal quality measurement unit (Figure 1, signal strength measurer 12) operative to receive and process a first transmission (Figure 3, white blocks) to provide a first indication (Figure 6, first set of power control bits P1-P6) for a first metric (power control) for the first transmission.

A data processor (Figure 1, signal strength measurer 12) operative to receive and process a second transmission (Figure 3, white blocks) to provide a second indication (Figure 6, second set of power control bits P1-P6) for a second metric (power control) for the second transmission.

A power control processor (power control bit generator 13, power control bit inserter 14, and transmit power controller 17) coupled to the signal quality measurement unit and the data processor. Refer to the rejection of claim 1 and Column 1, line 55 to Column 2, line 9.

Wherein the second indication is formed by aggregating a plurality of power control bits allocated for feedback for the second transmission, wherein aggregating lowers the rate of the plurality of power control bits, and further wherein the aggregating is performed at the transmitter of the power control bits. Refer to the rejection of claim 1.

Ahn et al do not disclose directing transmission of the first and second indications on the first and second power control sub-channels, respectively. Refer to the rejection of claim 10.

Ahn et al also do not disclose different processors (signal quality measurement unit, data processor) for receiving and processing a first and second transmission, respectively. However, signal strength measurer 12 performs the function of receiving and processing successive transmissions.

Referring to claim 26, Ahn et al disclose a power control unit within a base station in a wireless communication system, comprising:

A channel processor (power control bit detector 25, power control bit processor 26, and transmit power controller 27) operative to receive and process a received signal to recover a first indication (Figure 6, first set of power control bits P1-P6) of a received quality of a first transmission (Figure 3, white blocks) and a second indication (Figure 6, second set of power control bits P1-P6) of a received quality of a second transmission (Figure 3, white blocks), wherein the second indication of formed by aggregating a plurality of power control bits allocated for feedback for the second transmission, wherein the aggregation lowers the rate of the plurality of power control bits, and further

wherein the aggregating is performed at the transmitter of the power control bits. Refer to the rejection of claim 1 and Column 2, lines 10-35.

Referring to claim 27, Ahn et al do not disclose that the setpoint is adjusted based on the received quality of the first transmission.

Li et al disclose that the transmission power level is increased if the E_b/N_t ratio is less than a threshold a setpoint (threshold) and decreased if the E_b/N_t ratio is greater than a threshold. The threshold is adjusted based on the quality of the first transmission. If an error occurred, mobile unit increases the threshold value for the E_b/N_t ratio. Otherwise, mobile unit decreases the threshold for the E_b/N_t ratio. Refer to Column 4, lines 15-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the setpoint is adjusted based on the received quality of the first transmission; the motivation being so that the threshold can be adjusted based on whether or not the frames were received in error, thereby updating the threshold to indicate the current channel conditions.

Referring to claim 28, Ahn et al do not disclose that the setpoint is adjusted upward responsive to the received quality of the first transmission being greater than the setpoint.

Li et al disclose that if an error occurred, mobile unit increases the threshold value for the E_b/N_t ratio. Refer to Column 4, lines 15-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the setpoint is adjusted upward responsive to the received quality of the first transmission being greater than the setpoint; the motivation being that if an error has

occurred, the threshold needs to be increased so that the current, measured E_b/N_t ratio can be compared to a higher setpoint since the channel conditions have worsened.

Referring to claims 29 and 30, Ahn et al do not disclose that the setpoint is adjusted downward responsive to the received quality of the first transmission being less than the setpoint.

Li et al disclose that if an error has not occurred, mobile unit decreases the threshold value for the E_b/N_t ratio. Refer to Column 4, lines 15-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the setpoint is adjusted downward responsive to the received quality of the first transmission being less than the setpoint; the motivation being that if an error has not occurred, the threshold can be decreased so that the current, measured E_b/N_t ratio can be compared to a lower setpoint since the channel conditions have improved.

Referring to claim 31, Ahn et al do not disclose that a period between adjustments in setpoint is adjustable.

Li et al disclose that the period between adjustments in setpoint (threshold) is adjustable since it is based on when the mobile unit checks the CRC of each data frame to determine whether an error occurs in the transmission of the data frame. Refer to Column 4, lines 41-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that a period between adjustments in setpoint is adjustable; the motivation being to keep the threshold updated to current channel conditions.

Referring to claims 32 and 33, refer to the rejection of claim 31. Successive upward and downward adjustments are adjustable depending on when the mobile unit checks the CRC of each data frame.

Referring to claim 34, Ahn does not disclose that the amount of upward adjustment in setpoint is independent of the amount of downward adjustment in setpoint.

Li et al disclose that the upward and downward adjustment of the setpoint (threshold) depends on the CRC of each data frame and whether or not an error has occurred in the transmission of the data. Refer to Column 4, lines 41-52. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the amount of upward adjustment in setpoint is independent of the amount of downward adjustment in setpoint; the motivation being that the upward and downward adjustments depend on the quality of data frames and not on one another.

9. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 5,590,873 to Li et la, and in view of U.S. Patent No. 6,498,785 to Derryberry et al.

Ahn et al do not disclose that the feedback rate of the second transmission is based at least in part on a frame size of the second transmission.

Derryberry et al disclose that the time interval between measurements for power control (feedback rate) is based on the frame sizes available on the forward control channel for sending the power control messages. The forward control channel may have frame sizes of 5msec, 10msec or 20msec, giving time intervals of 5msec, 10msec

or 20 msec, and power control update frequencies of 200Hz, 100Hz or 50Hz, respectively. Refer to Column 4, line 67 to Column 5, line 12; Column 10, lines 60-67; and Column 11, lines 6-24. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the feedback rate of the second transmission is based at least in part on a frame size of the second transmission; the motivation being that larger the frame size, the less often power control updates occur.

10. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,539,008 to Ahn et al in view of U.S. Patent No. 5,590,873 to Li et al, and in view of U.S. Patent No. 6,337,989 to Agin.

Ahn et al do not disclose that the method further comprises determining a duration of an interruption in the receiving and processing of the first transmission; and signaling for an increase in the transmit power level for the first transmission if the duration of the interruption is less than a particular time period.

Agin discloses in Figure 2 a power control algorithm for controlling a system subject to transmission interruption. The method comprises determining a duration of an interruption (transmission interruption period Tint) in the receiving and processing of the first transmission; and signaling for an increase (δ_2) in the transmit power level for the first transmission if the duration of the interruption (Tint) is less than a particular time period (T'). In step 15, it is checked whether or not transmission is resumed after a transmission interruption period Tint, and if transmission is resumed, it is checked at step 16 if a given duration T' following the interruption period is still running. At step 18,

if transmission is resumed and T' is still running, the method signals an increase in the power control step (δ_2). Refer to Column 6, lines 1-30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the method further comprises determining a duration of an interruption in the receiving and processing of the first transmission; and signaling for an increase in the transmit power level for the first transmission if the duration of the interruption is less than a particular time period; the motivation being that during transmission interruptions, power control measurements are also interrupted so there must be an increase in the transmit power level in order to compensate for the effects of transmission interruption on power control. Refer to Column 1, line 58 to Column 2, line 25.

Allowable Subject Matter

11. Claims 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments filed June 30, 2006 have been fully considered but they are not persuasive.

Referring to the argument that Ahn et al does not lower the rate of the power control bits by aggregation: Ahn et al disclose that by performing power control at the receiver once for every power control bit, a power control speed of 4800Hz is realized (612). Similarly, by performing power control at the receiver once at the average of two power control bits, three power control bits or four power control bits, a power control

speed of 2400Hz (614), 1600Hz (615) or 800Hz (616) can be obtained, respectively. Therefore, aggregating (averaging) the power control bits lowers the rate of power control. Refer to Column 5, lines 1-61. This reads on the claim limitation "wherein aggregating lowers the rate of the plurality of power control bits", since Ahn et al aggregates (averages) the power control bits in order to obtain lower rates (4800Hz, 2400Hz, 1600Hz and 800Hz). By averaging the power control bits, the rate of the power control bits is also lowered since less bits are transmitted.

Referring to the argument that Ahn et al does not lower the rate of the power control bits by aggregation at the transmitter of the power control bits: "The selection of a particular power control bit frequency can be made either during the power control bit determination or after the power control bits are demodulated in a receiver" (Column 5, lines 34-37). If the selection of a particular power control bit frequency is done during the power control bit determination, this will be done at the transmitter end. The transmitter end determines a power control bit to send to the receiver, so that the receiver can adjusts its power upwards or downwards depending on the received power control bit. This can be seen in Figure 1, where the transmitter (terminal 10) generates a power control bit to the receiver (base station 20), so that the base station 20 can adjust its signal strength accordingly. Refer to Column 1, line 60 to Column 2, line 20.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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